



FIRE APPARATUS ENGINEER

1FS16

DEPARTMENT(S): Department of Forestry & Fire Protection
OPENING DATE: May 24, 2021
FINAL FILING DATE: June 22, 2021
EXAM TYPE: OPEN
SALARY: \$4,132.00 - \$4,974.00
LOCATIONS: Statewide

EQUAL EMPLOYMENT & DRUG FREE STATEMENTS

The State of California is an equal opportunity employer to all, regardless of age, ancestry, color, disability (mental and physical), exercising the right to family care and medical leave, gender, gender expression, gender identity, genetic information, marital status, medical condition, military or veteran status, national origin, political affiliation, race, religious creed, sex (includes pregnancy, childbirth, breastfeeding and related medical conditions), and sexual orientation.

It is an objective of the State of California to achieve a drug-free state work place. Any applicant for State employment will be expected to behave in accordance with this objective, because the use of illegal drugs is inconsistent with the law of the state, the rules governing civil service, and the special trust placed in public servants.

WHO CAN APPLY

Persons who meet the minimum qualifications of the classification, as stated on this examination bulletin. All applicants must meet the education and/or experience requirements by the final filing date of **June 22, 2021** unless otherwise noted on the class specification.

SALARY INFORMATION

This classification is eligible for the following pay:

\$4132 - \$4974 Base Salary (paid every month)

\$2052 - \$2470 Extended Duty Week Compensation (paid every 4 weeks)

In addition to the above pay items, employees are eligible for medical benefits (health, dental, vision) and may be eligible for other pay differentials.

SPECIAL TESTING ARRANGEMENTS

If you have a disability and need special testing arrangements, mark the appropriate box on the application and you **MUST** submit the [Accommodation Request Form \(STD. 679\)](#) with your application. This can also be found on the California Department of Human Resources website.

HOW TO APPLY

To apply for this examination, please complete and return the following:

- [Examination/Employment Application \(STD.678\)](#). This can also be found on the California Department of Human Resources' website. *You may submit your application by mail or in person.*

SUBMIT BY MAIL OR IN PERSON:

Department of Forestry and Fire Protection
710 Riverpoint Court
West Sacramento, CA 95605
Examination Unit – (Attn: Elena Villegas)

DO NOT SUBMIT APPLICATIONS VIA E-mail

Applications postmarked or personally delivered after the final filing date, **June 22, 2021** will not be accepted for any reason.

All applications/resumes must include "from" and "to" employment dates (month/day/year), time base, and applicable civil service class titles. Applications/resumes received without this information will be rejected.

Dates printed on Mobile Bar Codes, such as the Quick Response (QR) Codes available at the USPS, are not considered Postmark dates for the purpose of determining timely filing of an application.

EXAMINATION INFORMATION

To obtain a position on the eligible list, applicants must receive a minimum rating of 70% on the examination. *This exam will consist of the following:*

ONLINE WRITTEN EXAMINATION WEIGHTED AT 100%

The written examination will be administered in an online format consisting of job-related multiple-choice questions.

Candidates will be provided: CLASSMARKER Test Link

Candidates will need the following: A cell phone, tablet, or computer with access to the internet.

Compatible Web Browsers: Windows, Macintosh, Linux, ChromeOS/Chromebook, Internet Explorer, FireFox, Chrome, Safari, Opera, iPhone, iPad, iTouch and Android

It is anticipated the online written examination will be held in August 2021.

More information regarding the examination will be sent to the email address provided on your application.

Please ensure we have the correct email information on file

PLEASE NOTE: All exam questions are based on the Knowledge, Skills and Abilities listed in this bulletin and the [Fire Apparatus Engineer](#) classification specification which is located on the CAL HR website. Use this information when preparing for this exam and retain this bulletin for your reference.

MINIMUM QUALIFICATIONS

EITHER I

Possession of a valid driver license of the appropriate class issued by the Department of Motor Vehicles. Applicants who do not possess the license will be admitted to the examination but must secure the license prior to appointment. and
Experience: Either I Eight months of fire-fighting experience.

OR II

Enrollment in the California Fire Fighter Joint Apprenticeship Committee Preapprenticeship Outreach Program. and

Three months' fire-fighting experience until December 31, 1983; six months' fire-fighting experience until December 31, 1984; or eight months' fire-fighting experience thereafter.

OR III

Two years of experience as a certified volunteer firefighter. (Candidates who are within two months of satisfying the experience requirement under Pattern I above for this class will be admitted to the examination, but they must fully meet the experience requirement before being eligible for appointment.)

OR IV

Two years of experience as a Fire Prevention Specialist II and successful completion of the mandatory training courses prescribed for a Department of Forestry and Fire Protection Fire Fighter I.

ADDITIONAL DESIRABLE QUALIFICATIONS

Education equivalent to completion of the twelfth grade.

ELIGIBLE INFORMATION

A Departmental eligible list will be established for the Department of Forestry and Fire Protection. This list will be abolished 12 months after it is established unless the needs of the service and conditions of the list warrant a change in this period.

POSITION DESCRIPTION

Under general supervision, to operate fire apparatus during wildland and structural fire-fighting operations; to lead an assigned crew in the performance of fire-fighting duties; to maintain and make minor repairs on vehicles, equipment, and the fire stations; to perform fire prevention tasks; may perform paramedic duties; and to do other related work.

KNOWLEDGE, SKILLS, AND ABILITIES

Knowledge of:

1. Lookouts, Communication, Escape Routes, Safety Zones (LCES) to mitigate incidents safely.
2. Wildland firefighting safety rules of engagement (e.g., 10 Standard Firefighting Orders; 18 Situations That Shout Watch Out; Lookouts, Communication, Escape Routes, Safety Zones) for safe operations.

3. Principles and practices of emergency medical procedures (e.g., Basic Life Support [BLS], Cardiopulmonary Resuscitation [CPR], Automated External Defibrillator [AED]) to safely respond to and render medical aid.
4. Patient assessment (e.g., vital signs, skin signs, level of consciousness) to effectively treat patients at the Basic Life Support (BLS) level.
5. Emergency scene safety practices (e.g., traffic, life safety hazards, apparatus placement) to ensure the safety of the public and emergency response personnel.
6. Basic fire behavior (e.g., types, phases, characteristics) to identify the most effective extinguishing methods.
7. Safety gear (e.g., Personal Protective Equipment [PPE], traffic vest, fire shelter) to ensure compliance with safety rules, regulations, and personal safety.
8. Fire suppression principles for various types of fire (e.g., structural, vehicle, wildland) to safely and effectively mitigate an incident.
9. Occupational Safety and Health Administration (OSHA) policies (e.g., two in – two out, accountability, lock out – tag out) to ensure personnel safety and compliance with Federal and State law.
10. The strategies and tactics (e.g., indirect, direct, combination) used to safely and effectively suppress various types of fires (e.g., vehicle, structure, wildland).
11. Emergency operations (e.g., fires, rescues, hazardous materials incidents) to mitigate incidents in a safe and efficient manner.
12. Fire tools and equipment (e.g., chainsaw, axe, ventilation fans) to ensure proper use and maintenance.
13. Life hazard notification policies (e.g., Emergency Command Center notification, Three Stripes You're Out, personnel accountability) to ensure firefighter and scene safety.
14. Safety precautions (e.g., Personal Protective Equipment [PPE], body substance isolation, proper needle disposal) to provide protection from communicable diseases.
15. Defensive driving techniques (e.g., traffic laws, intersection approach, utilization of warning devices) to safely operate Department vehicles in emergency and non-emergency situations.
16. Wildland-urban interface strategies and tactics for structure defense.
17. Heat related illness and/or injuries to comply with Department policies and procedures.
18. Fire hose types (e.g., attack, supply) to ensure appropriate use in fire suppression and other activities.
19. Fire apparatus (e.g., engine, truck, rescue) and their capabilities for effective use and maintenance.
20. Structural chainsaw operations (e.g., rescue, ventilation, overhaul) to ensure life, safety, and compliance with Department Chainsaw policy.
21. Fire service ladders (e.g., testing, maintenance, use) to ensure operational readiness and personnel and public safety.

22. Emergency and non-emergency vehicles (e.g., engine, ladder truck, rescue) operations to ensure safe and effective utilization according to Federal, State, and local regulations, and Department policies and procedures.
23. Basic vehicle maintenance and repair (e.g., pre-trip inspection, scheduled maintenance, brake adjustment) to ensure safety and operational readiness.
24. The Department's chain of command to ensure effective operation within the Department.
25. Building construction (e.g., wood frame, masonry, metal frame) to determine appropriate fire suppression tactics and ensure firefighter safety.
26. Extinguishing agents (e.g., water, foam, dry chemicals, Halon, gel) and their appropriate application during fire suppression for safe and effective fire operations.
27. Command systems (e.g., Incident Command System, National Incident Management System) for proper organization and structure.
28. Various terminology (e.g., Incident Command System, medical, fire) to communicate effectively.
29. Standard response plans (e.g., medical, wildland, structure) for appropriate response to incidents.
30. Hazardous material incident operations to analyze the situation and determine the appropriate actions (e.g., isolate and deny entry, lock-out tag-out, dike or dam the flow) to safely minimize and/or mitigate an incident.
31. Fire ground hydraulics (e.g., gallons per minute, pump operations, friction loss) to provide safe and effective water use.
32. Rescue and extrication (e.g., vehicle, building, trench) techniques to safely and effectively remove entrapped victims.
33. Utility control (e.g., water, gas, electrical) to ensure personnel safety during incidents.
34. Maintenance and inspection methods for safety gear (e.g., Personal Protective Equipment [PPE], traffic vest, fire shelter) to ensure compliance with safety rules, regulations, and personal safety.
35. Reference materials (e.g., Incident Response Pocket Guide [IRPG], Field Operations Guide, Fireline Handbook) to ensure firefighter safety and survival.
36. Safe food handling methods to ensure the health and wellbeing of personnel to avoid food borne pathogens.
37. Wildland chainsaw operations (e.g., felling, brushing, limbing) for fire control and firefighter safety per National Wildfire Coordinating Group (NWCG) and Department policies and procedures.
38. The state-wide radio call plan to effectively communicate with Emergency Command Centers and other emergency responders.
39. California Vehicle Code as it applies to the operation of commercial vehicles and emergency vehicles on the highways.
40. Fire hose maintenance (e.g., testing, proper storage) to ensure operational readiness and firefighter safety.
41. Suppression resources (e.g., hand crew, dozers, aircraft) for ordering resources based on capabilities to ensure effective operations.

42. Department forms (e.g., incident, personnel, procurement) for effective job performance.
43. Navigational aids (e.g., Global Positioning System [GPS], maps, compass, Automated Vehicle Locator [AVL]) for assistance in navigation and mapmaking.
44. Tactics and techniques (e.g., observation, retardant drop, mapping) used in aerial firefighting to assist in fire suppression activities.
45. Fire protection systems (e.g., sprinkler systems, fire department connections, standpipes, alarm systems) for preplanning and fire suppression.
46. Ropes and related equipment and their proper use and maintenance to ensure operational readiness.
47. Specialized rescue procedures (e.g., high and low angle, water, confined space) to safely and effectively rescue entrapped victims.
48. The proper uses and abilities of transport resources (e.g., ambulance, air-ambulance, rescue helicopters) to ensure patient is provided proper transport to appropriate medical facility.
49. Basic mechanical systems (e.g., lowering, hauling, winching) for rescue operations.
50. Applicable Department policies and procedures (e.g., material management, safety, procurement) for effective job performance.
51. Basic human anatomy for effective treatment of patients during medical emergencies.
52. Health Information Portability and Accountability Act (HIPPA) laws, rules, and regulations to ensure compliance and information security.
53. California Code of Regulations (CCR) Title 22, Division 9 pertaining to Emergency Medical Services (EMS) to ensure proper medical care.
54. The various fire cause classifications (e.g., arson, electrical, vehicle) for statistical and investigative purposes.
55. Hazardous material incident command structure (e.g., Technical Reference Specialist, Entry Team Leader, Decontamination Leader) to safely mitigate an incident.
56. Helicopters and helitack equipment capabilities (e.g., rescue, suppression, crew transport) for use in air operations.
57. Federal, State, and local regulations affecting emergency plans (e.g., operating plans, response plans, pre-plans) to ensure personnel are in compliance during emergency operations.
58. Hazardous material storage (e.g., bulk fuel, insecticides, flammable liquids) to ensure environmental safety and compliance with Federal, State, and local laws.
59. Fire prevention principles and practices (e.g., defensible space, school programs, weed abatement) to prevent fires and provide fire safety.
60. Basic construction (e.g., buildings, trails, water systems) for appropriate maintenance and project completion.
61. Helicopter and helitack safety procedures (e.g., crash rescue, pre-flight briefing, approaching the aircraft) to ensure the safety of personnel.

62. Applicable codes, laws, rules, and regulations (e.g., Public Resource Code, Health and Safety Code, Penal Code, Uniform Fire Code) to ensure appropriate application in all administrative and firefighter activities.
63. Mathematical calculations (e.g., algebra, arithmetic, geometry) for effective job performance.
64. Inventory practices (e.g., Material Requisition Transfer, Safety Data Sheet, service center operations) to ensure operational readiness.

Skill to:

1. Don appropriate fire and safety gear (e.g., Nomex, turnouts, vests) to provide for firefighter safety according to Department policy.
2. Operate Self-Contained Breathing Apparatus [SCBA] equipment for effective operation and use.
3. Perform arduous physical activity (e.g., running, hiking, climbing) in all conditions and terrain for effective job performance.
4. Safely drive and operate emergency equipment (e.g., utility vehicles, fire apparatus, crew buses) through adverse conditions (e.g., mountainous and/or rough terrain, heavy traffic, long drives, inclement weather).
5. Render basic medical aid (e.g., cardiovascular pulmonary resuscitation, oxygen administration, control bleeding) to stabilize patients.
6. Operate various fire pumps (e.g., vehicle, portable, auxiliary) for safe and effective use during fire suppression and training.
7. Operate firefighting equipment (e.g., hoses, extinguishers, ladders) for safe and effective use during fire suppression and training.
8. Don infectious control Personal Protective Equipment (PPE) (e.g., mask, gloves, eye protection) to provide for firefighter safety according to Department policy.
9. Construct a fire line using tools (e.g., power, hand, firing devices) to limit fire spread in various fuel types and conditions.
10. Manipulate various tools (e.g., power, hand, firing devices) for safe and effective use.
11. Tie knots (e.g., bowline, clove hitch, family of eights) to prepare patients, personnel, or equipment for movement and rescue.
12. Safely prepare food to ensure health and wellbeing of personnel and to avoid food borne pathogens.
13. Use navigation tools (e.g., Global Positioning System [GPS], map, compass) for assistance in navigation and mapmaking.
14. Perform mechanical repairs on vehicles and small appliances (e.g., replace bulbs, tires) to ensure operational readiness.

Ability to:

1. Recognize life safety hazards and make appropriate decisions for an effective resolution.
2. Quickly prepare self for response to an emergency for effective job performance.

3. Exercise good judgement in emergency situations to ensure safe and effective operations.
4. Maintain situational awareness during stressful situations for safe and effective outcome.
5. Administer Cardiopulmonary Resuscitation (CPR) in medical emergencies to provide the highest level of care to the public.
6. Adequately administer emergency medical care to ill or injured persons to stabilize the patient.
7. Operate various fire hoses (e.g., charged, bundled) for appropriate application during fire suppression and other activities.
8. Lead personnel (e.g., coworkers, crews, cooperating agencies) in emergency and non-emergency situations to accomplish tasks.
9. Recognize the characteristics of smoke (e.g., volume, velocity, density, color [VVDC]) to determine operational needs and safety factors.
10. Recognize sensitive situations (e.g., crime scene, fatality accident) to maintain confidentiality.
11. Hike on steep and uneven terrain while carrying equipment in all weather conditions for effective job performance.
12. Perform suppression activities in and around Immediate Danger to Life and Health (IDLH) atmospheres utilizing appropriate Personal Protective Equipment (PPE) (e.g., Self-Contained Breathing Apparatus [SCBA], turnouts, hazmat) to ensure safe operations.
13. Recognize the characteristics of fire behavior to ensure firefighter and public safety.
14. Properly manage fireline personnel emergencies (e.g., wildland, structural) to provide prompt care and treatment.
15. Analyze situations for development and implementation of an effective course of action during emergency and non-emergency situations.
16. Communicate effectively using a variety of terminology (e.g., incident command system, medical, fire) for safe and effective operation.
17. Follow written and oral instructions to ensure a safe and effective operations.
18. Check vital signs of patient to determine whether circulation and respiration are functional and adequate.
19. Instruct others (e.g., employees, public) in emergency and non-emergency situations to ensure safe and effective operations.
20. Handle (e.g., maneuver, position, carry) various sizes of fire hose (e.g., large diameter) for appropriate application during fire suppression and other activities.
21. Recognize the critically ill or injured (e.g. acute vs. non-acute) for proper patient care.
22. Safely use and maintain firefighting tools and equipment (e.g., chainsaw, axe, ventilation fans) to accomplish tasks.
23. Receive incoming telephone or alarm system calls regarding emergency and non-emergency fire service, ambulance service, information, and after hours calls for the Departments within a city and/or county to respond with the proper resources.

24. Manage emergency incidents according to established procedures (e.g., laws, policies, agency agreements).
25. Write legibly to ensure effective communications.
26. Use mobile communication devices (e.g., cell phones, two-way radios, Mobile Data Computers) for effective communication.
27. Assign, direct, track, and evaluate operational resources for appropriate use and their effectiveness.
28. Neutralize stressful situations in emergency and non-emergency settings to ensure safe and effective operations.
29. Climb stairs (e.g., high rise, multi-story structures) while carrying equipment in adverse environments to complete tasks.
30. Determine appropriate strategies and tactics (e.g., Rescue, Exposures, Confinement, Extinguish, Overhaul, Ventilation, Salvage [RECEO-VS], defensive vs. offensive, mode of operations) in emergency situations according to industry standards to ensure safe and effective operations.
31. Operate Department and cooperating agencies' mobile equipment to safely and effectively complete daily tasks.
32. Tie knots and anchors to facilitate rescues, secure items, and complete projects.
33. Verbally communicate effectively to a variety of audiences (e.g., patients, coworkers, stakeholders) to maintain effective relationships.
34. Manage time effectively, multi-task, and prioritize assignments in order to meet objectives.
35. Prioritize, schedule, and delegate assignments in order to accomplish daily duties and activities.
36. Evaluate operational resources for appropriate use and effectiveness.
37. Read and interpret reference materials (e.g., training materials, policies, reports) for effective application.
38. Safely coordinate resources (e.g., air, ground, water) with operations to maximize effective use of available resources.
39. Analyze terrain and hazards to identify a safe landing zone for rotary wing aircraft.
40. Troubleshoot mechanical problems (e.g., power tools, hydraulic, mobile) to ensure safe and effective repairs are completed.
41. Analyze and assess effectiveness of Emergency Medical Services (EMS) (e.g., audit reports, patient outcome, data collection) to ensure proper patient care.
42. Assist in personnel functions (e.g., hiring, performance management, training) to meet the Department's mission, vision, and values.
43. Accurately provide pre-arrival instructions to callers for provision of pre-hospital care.

VETERANS' PREFERENCE

Veterans' Preference will be granted for this examination, pursuant to Government Code section 18973.1, effective January 1, 2014 as follows: 1) Any veteran, widow

EXAM BULLETIN – FIRE APPARATUS ENGINEER

EXAM CODE – 1FS16 FINAL FILING DATE 06/22/21

or widower of a veteran, or spouse of a 100 percent disabled veteran, who achieves a passing score in an entrance examination, shall be ranked in the top rank of the resulting eligibility list. Any veteran who has been dishonorably discharged or released is not eligible for Veterans' Preference. 2) An entrance examination is defined, under the law, as any open competitive examination. And 3) Veterans' Preference is not granted once a person achieves permanent civil service status. Veteran status is verified by the California Department of Human Resources (CalHR). Directions to apply for Veterans' Preference are on the Veterans' Preference Application (Std. Form 1093), which is available at [CAL HR Veterans Information](#) , and the [Department of Veterans Affairs](#).

CONTACT INFORMATION

Department of Forestry and Fire Protection
(916) 894-9580
CALFIREexams@fire.ca.gov

TDD is Telecommunications Device for the Deaf and is reachable only from phones
Equipped with a TDD Device
1 (800) 735-2929 (TT/TDD) 1 (800) 735-2922 (Voice)
STS is Speech-to-Speech Service for persons with a speech disability and is
reachable at
1 (800) 854-7784 (California) or 1 (800) 947-8642 (Nationwide)

GENERAL INFORMATION

For all examinations (with or without a written feature), it is the candidate's responsibility to contact the Department of Forestry and Fire Protection, (916) 894-9580, three weeks after the cut-off/final filing date if he/she has not received a progress notification or notice to appear.

Applications are available online at CalHR, local offices of the Employment Development Department and the testing Department on this job bulletin.

If you meet the requirements stated on this bulletin, you may take this examination, which is competitive. Possession of the entrance requirement does not assure a place on the eligible list. Your performance in the examination will be compared with the performance of the others who take this test, and all candidates who pass will be ranked according to their scores.

The Department of Forestry and Fire Protection reserves the right to revise the examination plan to better meet the needs of the service, if the circumstances under which this examination was planned change. Such revision will be in accordance with civil service laws and rules and all competitors will be notified.

General Qualifications: Candidates must possess essential personal qualifications including integrity, initiative, dependability, good judgment, and ability to work cooperatively with others; and a state of health consistent with the ability to perform the assigned duties of the classification. A medical examination may be required. In open examinations, investigation may be made of employment records and personal history and fingerprinting may be required.

Eligible Lists: Eligible lists established by competitive examination, regardless of date, must be used in the following order: 1) sub-divisional promotional, 2) Departmental promotional, 3) multi-Departmental promotional, 4) service-wide promotional, 5) Departmental open, 6) open. When there are two lists of the same kind, the older must be used first. Eligible lists will expire in one to four years unless otherwise stated on the bulletin.

If High School Equivalence is Required: Equivalence to completion of the 12th grade may be demonstrated in any one of the following ways: 1) passing the General Educational Development (GED) Test; 2) completion of 12 semester units of college work; 3) certification from the State Department of Education, a local school board, or high school authorities that the candidate is considered to have education equivalent to graduation from high school; 4) for clerical and accounting classes, substitution of business college work in place of high school on a year-for-year basis.

Confidentiality and Security: Pursuant to Government Code Sections 19680(c) and 19681(b) it is unlawful to copy and/or furnish confidential examination material for the purpose of either improving or injuring the chances of any person or to obtain examination questions or other examination material before, during, or after an examination. Every person violating these provisions is guilty of a misdemeanor, and adverse action will be pursued. This may result in the person being barred from competition in future examinations, withheld from certification lists, or cancellation of eligibility for employment in State civil service.

How to apply for Veterans' Preference: The California Department of Human Resources (CalHR) has information on how to apply for Veterans' Preference at [CAL HR Veterans Information](#), and the Application for Veterans' Preference Application for (CalHR 1093). Additional information is also available on the [Department of Veterans Affairs](#) website.